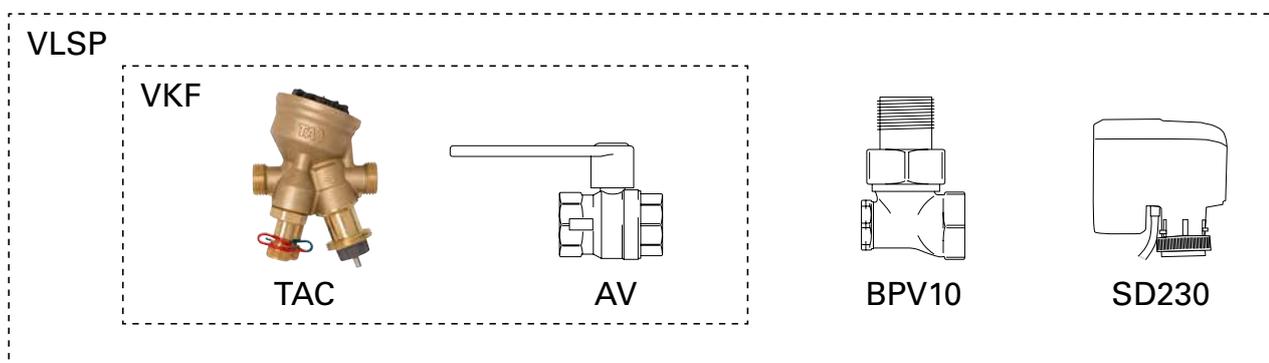
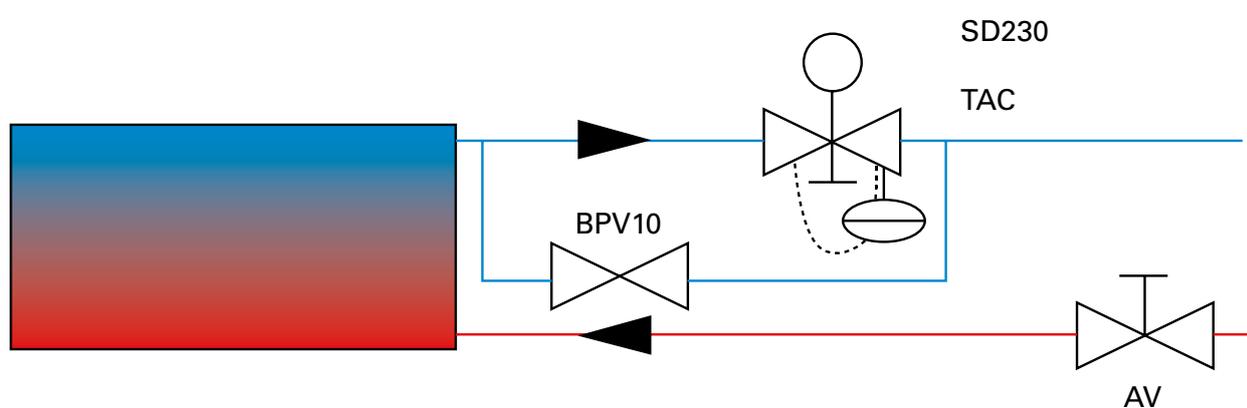


## VLSP



SE ... 2

EN ... 9

NO ... 16

DE ... 23

FR ... 30

NL ... 37

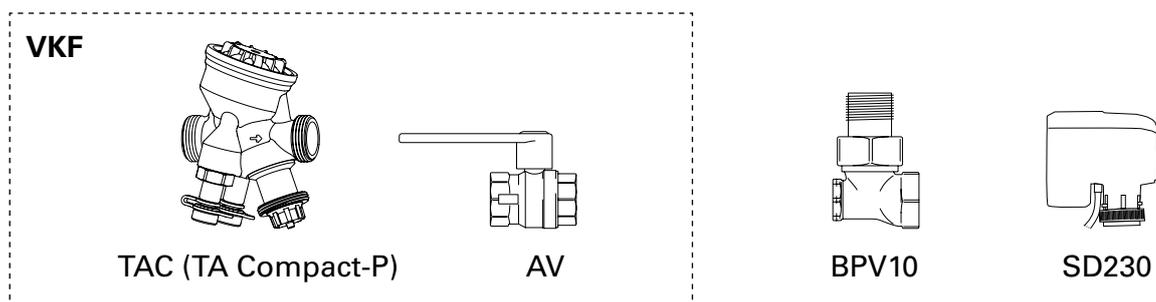
ES ... 44

RU ... 51

PL ... 58

## Components

### VLSP, pressure independent valve system on/off



#### VLSP15LF

Type		Specification
TAC15LF	Two way pressure independent regulation and adjustment valve	Low flow, DN15
SD230	Actuator on/off 230V	230V~
AV15	Shut off valve	DN15
BPV10	By-pass valve	DN10

#### VLSP15NF

Type		Specification
TAC15NF	Two way pressure independent regulation and adjustment valve	Normal flow, DN15
SD230	Actuator on/off 230V	230V~
AV15	Shut off valve	DN15
BPV10	By-pass valve	DN10

#### VLSP20

Type		Specification
TAC20	Two way pressure independent regulation and adjustment valve	Normal flow, DN20
SD230	Actuator on/off 230V	230V~
AV20	Shut off valve	DN20
BPV10	By-pass valve	DN10

#### VLSP25

Type		Specification
TAC25	Two way pressure independent regulation and adjustment valve	Normal flow, DN25
SD230	Actuator on/off 230V	230V~
AV25	Shut off valve	DN25
BPV10	By-pass valve	DN10

#### VLSP32

Type		Specification
TAC32	Two way pressure independent regulation and adjustment valve	Normal flow, DN32
SD230	Actuator on/off 230V	230V~
AV32	Shut off valve	DN32
BPV10	By-pass valve	DN10

## VLSP, pressure independent valve system on/off

Two way pressure independent control and adjustment valve with on/off actuator, shut-off valve and bypass. DN15/20/25/32. 230V.

The valve set consists of the following:

- TAC, pressure independent regulation and adjustment valve
- SD230, actuator on/off 230V
- AV, shut off valve
- BPV10, bypass valve

The shut off valve (AV) consists of a ball valve which is either open or closed and is used to shut off the flow, when servicing for example.

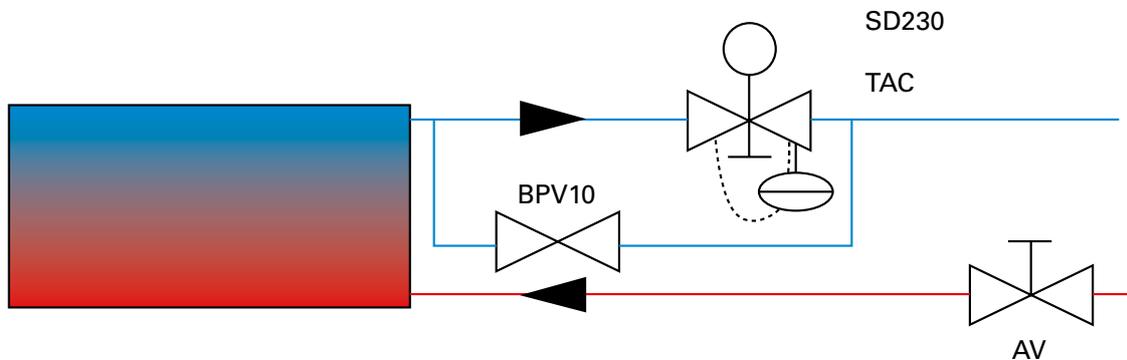
The regulation and adjustment valve (TAC) can be used to finely adjust or shut off the water flow manually. TAC is independent of the available differential pressure, which contributes to stable and accurate regulation (ensures the correct flow to the heater even if the differential pressure in the rest of the pipe system changes). The water flow is set using the gray adjustment knob on the valve

If the valve (TAC) is closed, a low flow passes through the by-pass valve (BPV10) so that there is always hot water in the water coil. This is to provide quick heat supply when a door is opened but also to provide a degree of frost protection.

The actuator (SD) controls the heat supply on/off. In unpowered mode SD230 is open.

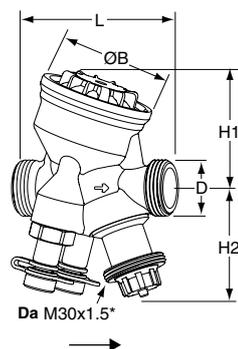
The valve set is available in 4 different valve dimensions, DN15 (1/2"), DN20 (3/4"), DN25 (1") and DN32 (1 1/4"). The by-pass valve is DN10 (3/8").

Used with SIRE Basic and Competent or supplemented with suitable thermostat.



## Two way pressure independent regulation and adjustment valve TAC (TA Compact-P)

### Dimensions and technical specifications



Type	DN	Flow	D	Da <sup>*1</sup>	L [mm]	H1 [mm]	H2 [mm]	B [mm]	Vikt [kg]
TAC15LF	15	Low flow	G3/4	M30x1,5	74	55	55	54	0,54
TAC15NF	15	Normal flow	G3/4	M30x1,5	74	55	55	54	0,54
TAC20	20	Normal flow	G1	M30x1,5	85	64	55	64	0,69
TAC25	25	Normal flow	G1 1/4	M30x1,5	93	64	61	64	0,79
TAC32	32	Normal flow	G1 1/2	M30x1,5	112	78	61	78	1,5

\*1) Connection to actuator.

Pressure class: PN16

Max. working temperature: 90 °C

Min. working temperature: 0 °C

Lift: 4 mm

### Material

Valve body: AMETAL®

Valve insert: AMETAL®

Valve plug: Stainless steel

Spindle: Stainless steel

Spindle seal: EPDM O-ring

Δp insert: PPS

Membrane: EPDM and HNBR

Springs: Stainless steel

O-rings: EPDM

AMETAL® is a dezincification resistant alloy.

### Media:

Water or neutral fluids, water-glycol mixtures.

### Flow range:

The flow ( $q_{max}$ ) can be set within the range:

DN 15 LF: 44-245 l/h

DN 15 NF: 88-470 l/h

DN 20: 210-1150 l/h

DN 25: 370-2150 l/h

DN 32: 800 - 3700 l/h

$q_{max}$  = l/h at each setting and fully open valve plug.

### Differential pressure (ΔpV):

Max. differential pressure ( $\Delta pV_{max}$ ):

400 kPa = 4 bar

Min. differential pressure ( $\Delta pV_{min}$ ):

DN15, DN20 = 15 kPa = 0,15 bar

DN25, DN32 = 23 kPa = 0,23 bar

(Valid for position 10, fully open. Other positions will require lower differential pressure.)

$\Delta pV_{max}$  = The maximum allowed pressure drop over the valve, to fulfil all stated performances.

$\Delta pV_{min}$  = The minimum recommended pressure drop over the valve, for proper differential pressure control.

**Leakage rate:**

Leakage flow  $\leq 0,01\%$  of max.  $q_{\max}$  (setting 10) and correct flow direction.  
(Class IV according to EN 60534-4).

**Connection:**

Male thread according to ISO 228.

**Marking**

TA, IMI, PN 16, DN and flow direction arrow. Grey setting wheel: TA-COMPACT-P and DN. For low flow version also LF.

**Application**

The regulation and adjustment valve (TAC) can be used to finely adjust or shut off the water flow manually. TAC is independent of the available differential pressure, which contributes to stable and accurate regulation (ensures the correct flow to the heater even if the differential pressure in the rest of the pipe system changes). The water flow is set using the gray adjustment knob on the valve.

**Functions**

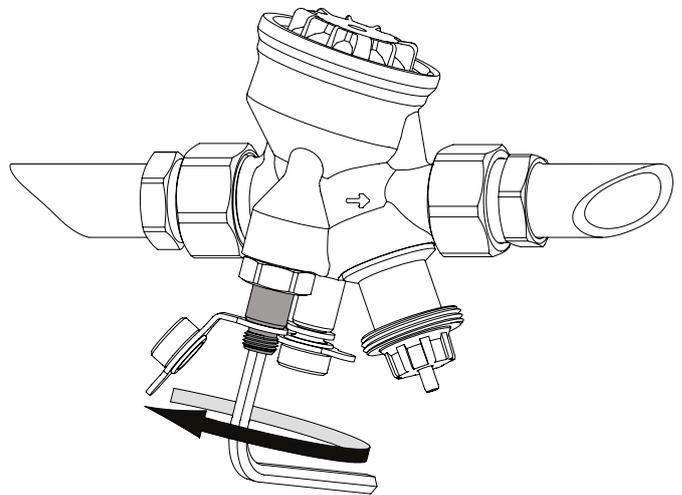
- Control
- Pre-setting (max. flow)
- Differential pressure control
- Measuring ( $\Delta H$ , T, q)
- Shut-off

**Noise**

In order to avoid noise in the installation the valve must be correctly installed and the water de-aerated.

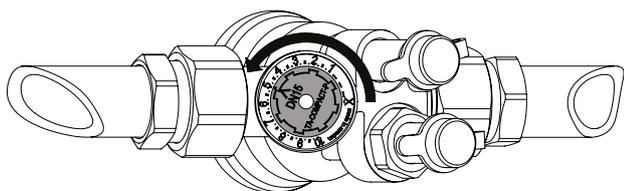
**Measuring****Measuring q**

1. Remove any actuator.
2. Connect IMI TA\* balancing instrument to the measuring points.
3. Input the valve type, size and setting and the actual flow is displayed.

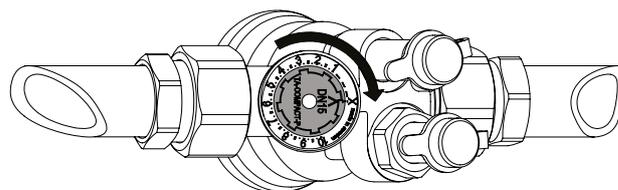
**Measuring  $\Delta H$** 

1. Remove any actuator.
  2. Close the valve according to "Shut-off".
  3. Bypass the  $\Delta p$  part by opening the bypass spindle  $\approx 1$  turn anticlockwise, with a 5 mm Allen key.
  4. Connect IMI TA\* balancing instrument to the measuring points and measure.
- Important!** Close the bypass spindle after the measurement is completed.

\* [www.imi-hydronic.com/](http://www.imi-hydronic.com/)

**Setting**

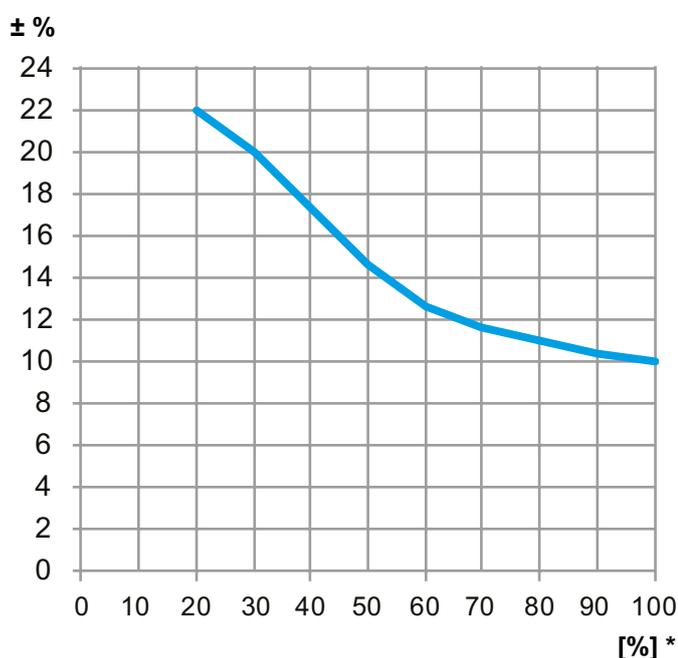
1. Turn the setting wheel to desired value, e.g. 5.0.

**Shut-off**

1. Turn the setting wheel clockwise to X.

**Measuring accuracy**

Maximum flow deviation at different settings.



\*) Setting (%) of fully open valve.

**q<sub>max</sub> values**

	Position									
	1	2	3	4	5	6	7	8	9	10
<b>DN15LF</b>	44	71	97	123	148	170	190	210	227	245
<b>DN15</b>	88	150	200	248	295	340	380	420	450	470
<b>DN20</b>	210	335	460	575	680	780	890	990	1080	1150
<b>DN25</b>	370	610	830	1050	1270	1490	1720	1870	2050	2150
<b>DN32</b>	800	1220	1620	2060	2450	2790	3080	3350	3550	3700

q<sub>max</sub> = l/h at each setting and fully open valve plug.  
LF = Low flow

**Sizing**

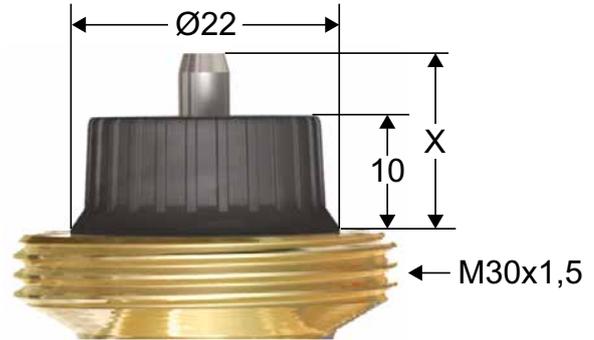
1. Choose the smallest valve size that can obtain the design flow with some safety margin, see “q<sub>max</sub> values”. The setting should be as open as possible.
2. Check that the available ΔpV is within the working range 15-400 kPa or 23-400 kPa.

**Closing force**

Working range: X (closed - fully open) = 11,6 - 15,8

Closing force: Min. 125 N (max. 500 N)

The maximum recommended pressure drop over a valve and actuator combination for close off ( $\Delta pV_{close}$ ) and to fulfill all stated performances ( $\Delta pV_{max}$ ).



	kPa*
DN15	400
DN20	400
DN25	400
DN32	400

\*) Closing force 125 N.

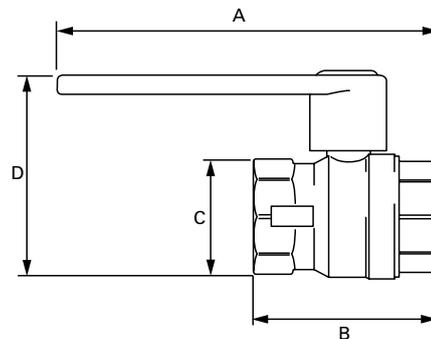
$\Delta pV_{close}$  = The maximum pressure drop that the valve can close against from an opened position, with a specified force (actuator) without exceeding stated leakage rate.

$\Delta pV_{max}$  = The maximum allowed pressure drop over the valve, to fulfill all stated performances.

**Shut off valve (AV15/20/25/32)**

**Dimensions and technical specifications**

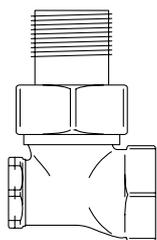
Type	DN	A [mm]	B [mm]	C [mm]	D [mm]	Weight [kg]
AV15	15	119	57	25	57	0,2
AV20	20	130	57	32	70	0,3
AV25	25	140	62	42	85	0,3
AV32	32	178	81	57	104	0,5



**Application**

The shut off valve is used to shut off the water flow to the unit and consists of a ball valve which is either open or closed. The shut off valve have no adjustment function and is only used for maintance and service.

## By-passvalve (BPV10)



### Dimensions and technical specifications

Type	HxWxD [mm]	Weight [kg]
BPV10	63x45x28	0,17

### Application

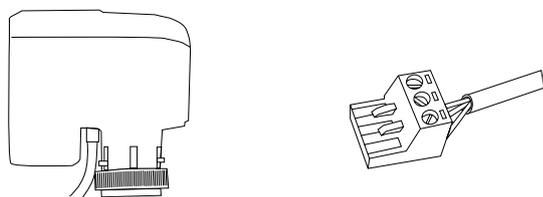
The by-pass valve is used when a small amount flow of water should pass by the unit at all times. The purpose of this is that the water should always stay hot in the watercoil, in cases when a door opens and a quick heat supply is needed.

This kind of valve has the dimension DN10 (3/8").

When mounting the plug inside the valve must be screwed entirely at first and then screwed back a whole lap. In cases where the distance between inlet and the unit is far away, open the plug even more by screwing the plug backwards.

## Actuator (SD230)

### Dimensions and technical specifications



Type	HxWxD [mm]	Weight [kg]
SD230	81x88x56	0,2

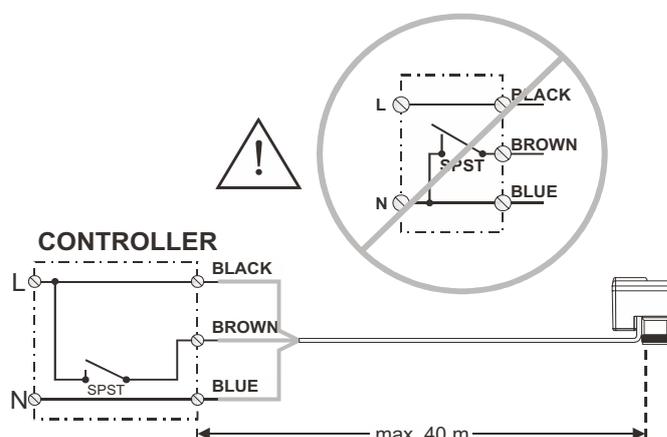
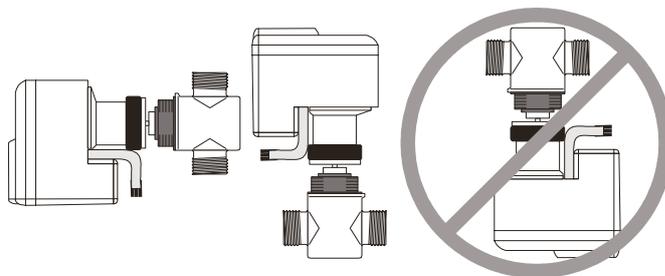
<b>Action</b>	On/Off-regulation, linear motion
<b>Supply voltage</b>	230V, 50-60 Hz
<b>Power consumption</b>	<1,5 VA in operation <0,5 VA in the end position
<b>Stroke force</b>	100 N
<b>Stroke length</b>	6,5 mm
<b>Full stroke time "On"</b>	Nominal 3 s
<b>Full stroke time "Off"</b>	Nominal 12 s
<b>Protection class</b>	IP54
<b>Screw-nut</b>	M30x1,5
<b>Cable length</b>	1,5 m
<b>Isolation class</b>	II
<b>Surrounding temp.</b>	0-60 °C

### Application

The electrical actuator in combination with the valve is used for regulating the heat supply to the unit. It's function is to open or close the valve (on/off). In unpowered mode SD230 is open.

The electrical actuator can be mounted and rotated after that the valve has been installed.

For regulating the actuator in combination with valve complement with SIRE or appropriate thermostat.





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